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THE INSECT PEST SURVEY BULLETIN

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Although its numbers were reduced materially by the January freeze, the spiraea aphid was appearing in unusually heavy infestations by the end of April in Florida. Unusually heavy infestations in the citrus groves in southern California are also reported this year.

The Harlequin bug is appearing in large numbers over the Gulf region and in the South Atlantic States.

The Mexican bean beetle appeared in Alabama 13 days later than last year, and present indications are that winter survival will be very low in that State.

The horseradish flea beetle has been reported for the first time from the State of Missouri and is doing serious damage in commercial plantings in St. Louis County.

An unusual report of damage by the periodical cicada was received from the northern part of New Jersey, where the pupae had practically ruined a lawn in making their emergence holes.

During the latter part of the month a very serious outbreak of Buffalo gnats developed in Tallahatchee County, Miss. Approximately 100 head of horses and mules died as a result of this outbreak.

OUTSTANDING ENTOMOLOGICAL FEATURES IN CANADA FOR THE MONTH OF APRIL, 1928

It is anticipated that grasshoppers will be below normal in British Columbia during 1928. Last year grasshopper outbreaks declined rapidly in many sections and heavy cold spring rains followed by a wet summer markedly reduced grasshopper abundance. In Saskatchewan, reports received late in 1927 indicate that grasshoppers which have been scarce in that province since 1924 are decidedly on the increase.

The estimated damage during 1927 in Saskatchewan by the wheat-stem sawfly, has been placed at \$4,565,000; by wireworms at \$4,145,000, and by cutworms at \$695,000. The total damage by these three pests is thus a little less than one half of that of 1926.

During the past two seasons, the potato stem-borer, Hydroecia micacia Esp., has been found or reported in every county in New Brunswick with the exception of Madawaska and Northumberland. It also appears to have a general distribution in Nova Scotia.

The eye-spotted budmoth Spilonota ocellana D. & S., has increased in numbers during the past three years in the St. John river valley and North Shore sections of New Brunswick.

The budmoth species, Pandemis limitata Rob., and Cacoecia persicana Fitch, have been found in orchards at many points in Kings County, N. S. These species probably occur throughout the Nova Scotia fruit belt.

As a result of scouting for the currant bud mite, Eriophyes ribis Nal., and the destruction of infested plants in the Gordon Head, Duncan and Westholme districts, B. C., during 1926 and 1927, it is believed that these areas are now free from infestation by this pest.

The European red mite has been increasing for several years in orchard sections of Nova Scotia and is now one of the major pests of apple.

The codling moth is not sufficiently numerous in British Columbia at the present time to affect any large percentage of the apple-growing sections.

As a result of control measures carried out since 1920, there are now no bark beetle outbreaks occurring in the yellow pine of British Columbia.

An infestation of tip-moth, Peronea variana Fern., was found affecting several square miles of hemlock between Britannia creek and Furry creek, B. C. in the latter part of 1927.

During the past winter, scouting for winter nests of the brown-tail moth in Nova Scotia failed to reveal any signs of the pest. As a result of this work, there has been a gradual reduction in brown-tail moth infestation in the Maritime Provinces from year to year, and it is hoped that the infestation has now been definitely eliminated.

GENERAL FEEDERS

ASIATIC BEETLE (Anomala orientalis Waterh.)

GENERAL STATEMENT Official Record Vol. 7, No. 16 (April 18): The Asiatic beetle has been doing an increasing amount of damage in Connecticut and southern Long Island. The State of Connecticut and this department are engaged in a cooperative control project which is aimed especially at reducing infestations in the vicinity of New Haven, Conn., where the insect was discovered several years ago. The larvae of the beetle feed on the roots of grasses and other plants and cause complete destruction of sod on lawns, and also injure certain perennial plants, iris, peony, and phlox among them. The Asiatic beetle is related to the Japanese beetle and its life history is somewhat similar. In the control project the treatment resorted to involved the application of carbon-disulphide emulsion to the soil, as is done in the control of Japanese beetle larvae in lawns. In all, 366 properties covering about 43 acres were treated. Thirty-eight thousand pounds of concentrated carbon-disulphide emulsion and more than 800,000 gallons of water were used. The treatment of the soil has been very effective in reducing the number of grubs throughout the area. Several of the parasites imported from the Orient which are effective on the Japanese beetle are also effective on the Asiatic beetle, and a number of species have been released in the heavily infested areas on Long Island.

Connecticut

R. B. Friend (April 24): Larvae came to surface of soil and resumed feeding a week ago, about two weeks earlier than last year at New Haven. Abundance as compared with average year appears to be about the same.

WHITE GRUBS (Phyllophaga spp.)

Missouri

L. Haseman (April 27): The common species of June beetles had been abundant just under the soil since the 15th of the month but owing to the cool temperature they have not begun to emerge or come to the lights at night. Their larvae appear less abundant in diggings than was the case a year ago.

CEREAL AND FORAGE CROP INSECTS

WHEAT

ARMY CUTWORM (Chorizagrotis auxiliaris Grote)

Kansas

J. W. McColloch (April 5): Cutworm injury to wheat is reported from Jennings, Wellington, Whitewater, and

Hays. Alfalfa has been damaged at Winfield and oats at Conway Springs. In every case where specimens have been sent they have proved to be the army cutworm. (April 14): The army cutworm seems to be general over the western half of Kansas, although the damage has not been so great as in former years.

Roger C. Smith (April 25): I find these cutworms plentiful in some fields. They were reported from Rydal, Kansas (Republic County). I anticipate very little damage though weather conditions are favorable.

Nebraska M. H. Swenk (January 1 to April 15): The army cutworm, which was very injurious in the winter wheat and alfalfa fields of western and central Nebraska from March 16 to April 30, 1925, this abundance being followed by a very heavy flight of moths from May 18 to June 24, decreased in abundance in fields in the same region the next season (1926) and from March 17 to May 18, but again produced a fairly heavy flight of moths May 26 to June 26. The species was injurious for a third season in this same area April 7 to 21, 1927, but failed to produce a heavy flight of moths in June, 1927, with the result that, so far this spring, we have had only a few reports of an injurious abundance of the army cutworms, these coming from Lincoln County to Cheyenne County during the first half of April.

ARMYWORM (Cirphis unipuncta Haw.)

Illinois W. P. Flint (April 18): There has been a rather heavy flight of the armyworm moths in southern and central Illinois in warm periods during the last two weeks.

HESSIAN FLY (Phytophaga destructor Say)

Kansas J. W. McColloch (April 14): The Hessian fly situation in the State is somewhat of a puzzle at the present time. The area of infestation is about the same as given in previous reports. Apparently there has been considerable loss from the fall infestation. Grain men covering the State report some loss throughout central Kansas. We know of one farmer who has plowed up 400 acres of wheat because of fly damage. Spring emergence of the fly began early in April and has been followed by snow and freezing weather. We have no information on the per cent of emergence previous to the freezes or the number of eggs and young maggots destroyed. It is, therefore, difficult to make any definite statements relative to the fly situation at this time.

PLAINS FALSE WIREWORM (Eleodes opaca Say)

Kansas J. W. McColloch (April 1): False wireworm larvae are reported very abundant in wheat fields at Brownell and Ness City.

WIREFORMS (Elateridae)

Missouri E. Haseman (April 27): Wireworms in central Missouri seem to be less abundant than during the last few years.

CORN

SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.)

Texas E. L. Thomas (April 10): J. N. Rovey, entomologist, temporarily assigned to the Beaumont Substation, writes: "I have found the southern corn root worm in every field in Jefferson and Liberty Counties that I have been in, and I find that many farmers are confusing this worm with the sugarcane moth borer."

Mississippi R. W. Harned (April 24): Twelve-spotted cucumber beetles were collected on Cedrus deodara plants at Leakesville on March 31. The correspondent thought that these beetles were responsible for the injury to his plants because they were very abundant at the time he sent them in. Later developments, however, indicated that the primary cause of the injury was the larva of a weevil. A correspondent at Ridgeland sent to us on April 12 a number of 12-spotted cucumber beetles with the information that they were injuring everything in her garden. These beetles were noticed feeding on alfalfa and hairy vetch at the Branch Experiment Station, Holly Springs, early in April.

CHINCH BUG (Blissus leucopterus Say)

Texas F. L. Thomas (April 12): I find the chinch bugs in all my corn this year at Carmine, Fayette County. There are as many as 10 on a single stalk 7 or 8 inches tall. I had same in my corn last year on two plots where the corn died in a short time.

ALFALFA

PEA APHID (Illinoia pisi Kalt.)

Kansas J. W. McColloch (April 4): An outbreak of the pea aphid is reported from an alfalfa field near Wellington.

Roger C. Smith (April 25): Damage to alfalfa by this insect is reported from Wellington, Tichita, Abilene, Manhattan, and Maple Hill, Kans. More abundant as compared with an average year, distribution is very local.

POTATO APHID (Illinoia solanifolii Ashm.)

Nevada G. C. Schweiss (April 9): Noticed on volunteer clumps about 3 to 4 inches high. Weather cool and below normal temperatures. They are quite numerous at Reno.

CLOVER

CLOVER LEAF WEEVIL (Hypera punctata Fab.)

Kansas Roger C. Smith (April 25): I find about the usual number of larvae and cocoons now at Manhattan. In some fields there are as many as 4 or 5 to a clump. Some larvae are very small while many have already formed cocoons. It is easy to find leaves damaged by them but there have been no reports of damage yet. Weather conditions are very favorable for this insect. Abundance as compared with average year appears to be about the same.

WESTERN SPOTTED CUCUMBER BEETLE (Diabrotica soror Dec.)

Oregon Don C. Mote (April 18): Numerous reports of injury by this beetle to fields seeded to clover have been received. On April 9, Mr. Thompson visited several farms in Yamhill County and found evidences of damage in the clover fields in all farms visited. County agent White reported about 1,000 acres of young clover destroyed in Yamhill County this year. In every case the loss is attributed to this insect by the growers because the insect is present in great numbers in the clover fields. Mr. Thompson found the beetles present in the field and doing damage, but not as many, according to the farmers, as were present a week or so prior to this date.

F R U I T I N S E C T S

EUROPEAN RED MITE (Paratetranychus pilosus C. & F.)

Massachusetts A. I. Bourne (April 21): From indications during the winter and reports that have come in from all over the State we are finding that the European red mite is still very prevalent and fully as abundant as last year, if not more so.

Connecticut Philip Garman (April 24): Reported by growers as abundant at New Haven on peaches and cherries in some localities. More abundant than usual.

New York Cornell Department of Ent. News Letter (April 9):
Orange County (Sidney Jones): Eggs of the red mite are well scattered over the county but infestations are light in most orchards. In one orchard they were observed in great abundance, the greater number being found on Northern Spy apples.
Dutchess County (Ray Bender): In some plantings, especially in Northern Spy block, eggs of the red mite can be easily seen on the crotches of the trees. Infestations are generally light.
Ulster County (E. J. Hambleton): Interest in the red mite and oil sprays is general. However, upon examining many orchards during the past two weeks none were found with a heavy infestation of red mite eggs. Growers are under the impression that this pest is

getting a foothold in the Valley and are quite concerned about its control. Undoubtedly a number of them will use an oil emulsion regardless of what few eggs are present.

Greene County (A.S.Mills): Red mite eggs are not abundant.

Erie County (M.N.Taylor): There is a scattering of red spider eggs throughout the southern section of the county.

Monroe County (R.C.Coombs): Red mite eggs were found on all fruits in this section.

Clinton County (A.B.Burrell): Red mite eggs are scarce.

Cornell Dept. of Ent. News Letter (April 16):

Onondaga County (W.E.Field): Red mite eggs are present but not numerous.

Cornell Dept. of Ent. News Letter (April 30):

Suffolk County, (W.D.Benn): Red mite infestations seem to be slight, only one orchard has been found infested.

Greene County (A.S.Mills): Red mite eggs are found in small numbers in all orchards. One dusted orchard has some trees badly infested.

Ohio

E. W. Mendenhall (April 25): I find the European red mite quite bad in southern Ohio in apple orchards.

TARNISHED PLANT BUG (Lygus pratensis L.)

Illinois

S. C. Chandler (April 18): The first tarnished plant bugs were observed on peach buds which were showing pink on March 23. Since then cold weather has checked their activities, but even on warmer days there are fewer than usual.

Nebraska

M. H. Swenk (January 1 to April 15): During the first week in April the tarnished plant bug was found in abundance in apple and pear orchards at Nebraska City and Lincoln, where it did considerable damage by blasting the blossoms.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

New York

Cornell Dept. of Ent. News Letter (April 9):

Ulster County (E.J.Hambleton): Very little scale has been found on apples and currants this spring.

Cornell Dept. of Ent. News Letter (April 30):

Chautauqua County (G.H.Salisbury): Little San Jose scale is found on either apples or currants.

Georgia

Oliver I. Snapp (April 20): Apparently the San Jose scale is now under good control in most orchards at the Georgia Peach Belt. Lubricating-oil emulsion (3 per cent strength) was used on at least three-fourths of the sprayed acreage last winter, liquidlime-sulphur being used on the remainder.

Illinois

W. P. Flint (April 18): There has been the highest winter mortality of the San Jose scale ever shown by our records in this State. Examinations of scale on unsprayed trees at several points in southern Illinois, where the normal winter mortality runs about 60 to 70 per cent, shows a mortality this year of from 93 to 98 per cent. One lot of scale from unsprayed peach at Centralia showed only 0.8 per cent living scale. The temperatures of the past winter have not been unusually low. In most of the area where this high mortality occurred, the minimum temperature of the winter was from 5° to 8° below zero. Apparently the scale was killed by the very sudden changes which occurred during the winter, probably mainly by the drop occurring during the first days of January.

Nebraska

M. H. Swenk (January 1 to April 15): After several seasons of no new reports of infestations by the San Jose scale, during March, 1928, three new infestations were found in three different Nebraska localities; all of them were very restricted, however, and none of them involved commercial nurseries.

APPLE

APHIDIDAE

Massachusetts

A. I. Bourne (April 31): Throughout our college orchards the apple aphids are slightly less abundant than normally. Prof. Whitcomb from the eastern part of the State reports them as plentiful but not abnormally abundant in that section. The eggs began hatching in the region of the college here about April 8 to 10, although because of the cold weather which we have experienced since that time development has been very slow. Prof. Whitcomb reports the aphids as hatching in the region of Middlesex County on April 10.

Connecticut

M. P. Zappe (April 24): Very few aphids can be found on buds. Eggs very scarce. They appear to be very much less abundant than last year, in New Haven County.

New York

Cornell Dept. of Ent. News Letter (April 16):

Greene County (A.S. Mills): The aphids are mostly green and grain aphids. Very few rosy have been seen.

Onondaga County (W.E. Field): As yet, green and rosy aphids have not been observed.

Dutchess County (Ray Bender): Aphids are increasing in numbers but so far no rosy has been seen.

Niagara County (W.E. Blauvelt): Apple aphids have been found in only a few orchards. They were mostly the grain aphids.

Orange County (Sidney Jones): Most growers are ready for the delayed-dormant spray and if the weather is favorable many will spray early next week. Rosy aphids and green aphids are hatching but are not abundant in most orchards. Aphid infestation varies with different orchards.

Illinois S. C. Chandler (April 18): Very light infestation in southern part of State.

APPLE APHID (Aphis pomi DeG.)

New York Cornell Dept. of Ent. News Letter (April 16):
Wayne County (E. E. Frane): Green apple aphids were found the first of the week.
Ulster County (E. J. Hambleton): The green aphids are increasing in numbers.
Chautauqua County (G. H. Salisbury): The green aphid is quite scarce.
Monroe County (R. C. Coombs): The green aphid is present in moderate numbers in protected situations.
Niagara County (W. E. Blauvelt): Green aphid is fairly numerous in most orchards.

Cornell Dept. of Ent. News Letter (April 30):

Suffolk County (W. D. Been): So far this does not appear like an aphid year. Have examined several orchards in various parts of the Island this week, and could only find one that was infested with aphids. This one was rather severely so with what I took to be winged females of the green aphid and nymphs of the rosy aphids.

Dutchess County (Ray Bender): The aphids seem to be getting scarce.

Ulster County (E. J. Hambleton): In most well sprayed orchards aphids have been well cared for.

Greene County (A. S. Mills): The cluster bud spray was applied on Kieffers and Sockels in early sections. Several of the growers seem to have obtained a good kill of aphids.

Wayne County (E. E. Frane): Very few aphids have hatched since the cold spell started.

APPLE-GRAIN APHID (Rhopalosiphum prunifoliae Fitch)

New York Cornell Dept. of Ent. News Letter (April 16):
Genesee County (R. L. Payne): First nymphs of the grain aphids were found on April 10.
Ulster County (E. J. Hambleton): Many grain aphids are in the second instar.
Suffolk County (W. D. Been): Early in the week aphids could be found. April 13, grain aphids could be found, sometimes two or three to the bud.

Cornell Dept. of Ent. News Letter (April 9):

Orange County (Sidney Jones): Aphid eggs are commonly found. On April 6 the first nymphs of the grain aphids were found feeding on the opening buds of McIntosh and Rome in orchards of the Warwick section. As many as nine nymphs were found on some of the buds.

Dutchess County (Ray Bender): Grain aphids are hatching; three is the usual number observed on a single bud but some buds have four and even five of them.

Ulster County (E.J. Hambleton): Grain aphids were first observed on April 2. During the warm weather that followed they increased in numbers.

Greene County (A.S. Mills): A few grain aphids have hatched out.

Onondaga County (W.E. Field): A considerable number of aphid eggs were found in one orchard and on Thursday, April 5, the first nymph was seen, presumably that of the grain aphid.

Erie County (M.N. Taylor): Aphid eggs are quite abundant. Several grain aphids were found on tips.

Ontario County (C.K. Bullock): Aphids were first observed hatching on April 6. They were probably the grain species.

Monroe County (R.C. Coombs): No aphids noted as yet, a careful search would probably reveal a few grain aphids. Many aphid eggs are sunken and lopsided as they were in 1926.

Geneva: (P.J. Parrott): Nymphs of the grain aphids appeared on April 5 on apple buds.

Clinton County (A.B. Burrell): On arrival, April 6, I found quite a few grain aphids in the first instar. The deposition of aphid eggs last fall seems moderate.

Cornell Dept. of Ent. News Letter (April 30):

Chautauqua County (G.H. Salisbury): The grain aphid is quite scarce.

Monroe County (R.C. Coombs): The grain aphid is present in moderate numbers in protected situations.

Niagara County (W.E. Blauvelt): Grain aphids are fairly numerous in most orchards.

Illinois J. H. Bigger (April 16): Can find no commercial damage to apples by aphids. The few seen are the grain aphids, in the western part of the State.

Missouri L. Haseman (April 27): The eggs of this aphid hatched just prior to the first freeze on April 6 and 7, and they were not injured apparently by a temperature of 22° F.

, ROSY APPLE APHID (Anuraphis roseus Baker)

New York Cornell Dept. of Ent. News Letter (April 16):

Wayne County (E.E. Frane): No rosy aphids have been found to date.

Erie County (M.N. Taylor): So far to date no rosy aphids have been found.

Ulster County (E.J. Hambleton): The first rosy aphids have been observed on the 13th. The warning to begin the delayed-dormant application was sent out April 13, bearing emphasis on the fact that rosy aphids were just beginning to hatch but

that growers with large acreages who planned to use an oil could begin to spray at once.

Greene County (A. S. Mills): Rosy aphids have not been found in the Marlborough section on April 13. The percentage of rosy as compared with other species is low.

Onondaga County (W. E. Field): The first rosy aphid was seen in the more advanced locations, Tuesday April 24, but very few have hatched as yet.

Chautauqua County (G. H. Salisbury): One rosy aphid was found on April 25.

Wayne County (E. E. Frane): A few rosy aphids were seen on April 21, but none have been seen since that time.

Monroe County (R. C. Coombs): The rosy aphid has not yet been observed.

Niagara County (W. E. Blauvelt): Few rosy aphids have hatched as yet.

Oregon

Don C. Mote (April 18): Mr. Thompson reports all eggs hatched April 16. On April 5, not all eggs were hatched. Stem mothers, some nearly full grown. No colonies.

WOOLLY APPLE APHID (Eriosoma lanigerum Hausm.)

Mississippi

R. W. Harned (April 11): Eriosoma lanigerum on apple from Kosciusko were received on this date. Identification made by A. L. Hamner.

CODLING MOTH (Carpocapsa pomonella L.)

New York

Cornell Dept. of Ent. News Letter (April 16):

Ulster County (E. J. Hambleton): A fair supply of the codling moth cocoons have been obtained from trees that were banded last fall.

Cornell Dept. of Ent. News Letter (April 30):

Ulster County (E. J. Hambleton): The codling moth larvae are beginning to pupate.

Greene County (A. S. Mills): Codling moth is in the larval stage. A cage has been set up.

Chautauqua County (G. H. Salisbury): The codling moth is in the larval stage.

Missouri

L. Haseman (April 27): The first pupae noted in breeding cages at Columbia appeared between April 15 and 20. On April 25, between fifty and seventy-five per cent of the worms had pupated.

Arkansas

H. H. Schwardt (March 28): An adult male moth emerged in the laboratory on this date at Bentonville. The earliest previous record for this laboratory is April 13. The laboratory is heated

only in the daytime, and it is possible that the continuous alternation of high and low temperatures hastened the emergence of this individual.

Oregon Don C. Mote (April 18): No pupae observed as yet, according to Mr. Thompson. Among 100 larvae examined no pupae were found.

EASTERN TENT CATERPILLAR (Malacosoma americana Fab.)

Connecticut W. P. Zappe (April 24): Eggs just hatching at New Haven and New London Counties. Very little foliage for caterpillars to feed on. Appear to be fewer than last year.

FRUIT TREE LEAF ROLLER (Archips argyrospila Walk.)

New York P. J. Chapman (April 7): Light infestations of this pest are common throughout the State. A large commercial orchard near Upper Red Hook, Dutchess County, has a very large number of egg masses at the present time. This is the first indication of a serious infestation in the Hudson River Valley fruit section.

Cornell Dept. of Ent. News Letter (April 9):

Orange County (Sidney Jones): Several egg masses of the leaf roller have been observed.

Dutchess County (Ray Bender): In the northern part of the county large numbers of leaf-roller egg masses have been seen. As many as five or six masses have been counted on a twig 6 inches in length. This infestation is in a well-cared-for orchard.

APPLE AND THORN SKELETONIZER (Hemierophila pariana Clerck)

New York Cornell Dept. of Ent. News Letter (April 9):

Ontario County (C. K. Bullock): Apple and thorn skeletonizer moths were seen on April 5.

BUD MOTH (Tmetocera ocellana Schiff.)

New York Cornell Dept. of Ent. News Letter (April 16):

Dutchess County (Ray Bender): The bud moth is working in the buds.

Ulster County (E. J. Hambleton): Bud moth larvae have been active for several days. With the buds of Kings, Johnathans, McIntosh, and other early varieties about ready for the delayed-dormant and some beyond the 1/4-inch stage only a few growers have started to spray. The buds are in such condition, having been held back, that they will probably make rapid growth.

Cornell Dept. of Ent. News Letter (April 30):

Greene County (A. S. Mills): The bud moth is not so abundant as usual.

Onondaga County (W. E. Field): Bud moth is at work in some orchards.

Chautauqua County (G. H. Salisbury): A few buds have been injured by bud moth larvae.

EASTERN TENT CATERPILLAR (Malacosoma americana Fab.)

- Massachusetts A. I. Bourne (April 21): The tent caterpillars began hatching in this region (Amherst) April 7 to 9. By the latter date they were coming out in considerable numbers. In many cases this hatching took place before the apple buds had opened to any extent.
- New York Cornell Dept. of Ent. News Letter (April 16):
Wayne County (E.E.Frane): Tent caterpillars were found hatching on the 12th.
Onondaga County (W.E.Field): Tent caterpillar egg masses are found in most orchards. A heavy blossoming is indicated on most trees, especially Wealthys and Baldwins. Cherries also show signs of heavy blossoming. If we have a few days of warm weather, the delayed-dormant application for early varieties of apples will probably come by the last of next week.
Ulster County (E.J.Hambleton): The apple tree tent caterpillars are feeding on the buds.
Dutchess County (Ray Bender): Apple tree tent caterpillars were found hatched on April 9.

A TENT CATERPILLAR (Malacosoma sp.)

- New York Cornell Dept. of Ent. News Letter (April 16):
Orange County (Sidney Jones): Tent caterpillars have been observed.
- Cornell Dept. of Ent. News Letter (April 30):
Greene County (A.S.Mills): Tent caterpillars hatching was observed on April 7. In comparison with the last two years, very few nests are present.
- Mississippi R. W. Harned (April 21): Caterpillars belonging to the genus Melacosoma were collected on plum at Benton on April 13, on apple and peach at Lexington on April 16, on peach at Durant on April 16, and on peach at West on April 17. In each case the reporter stated that as yet no noticeable injury had been caused by these caterpillars.

A CASE BEARER (Coleophora sp.)

- New York Cornell Dept. of Ent. News Letter (April 16):
Suffolk County (W.D.Been): The larva of the case bearer was also observed.
Columbia County (A.B.Buchholz): Case bearers are now working into the buds.
- Cornell Dept. of Ent. News Letter (April 30):
Wayne County (E.E.Frane): Case bearers are at work on the buds.

CIGAR CASE BEARER (Coleophora fletcherella Fernald)

New York

Cornell Dept. of Ent. News Letter (April 9):

Orange County (Sidney Jones): In two orchards the cigar case bearers were found abundantly.

PISTOL CASE BEARER (Coleophora malivorella Riley)

New York

Cornell Dept. of Ent. News Letter (April 30):

Chautauqua County (G.H. Salisbury): Numerous pistol case bearers have been observed at work on buds.

FRUIT TREE LEAF BEETLE (Syneta albida Lec.)

Oregon

Don C. Mote (April 18): A grower near Corvallis came to the office with several specimens of this species on April 7, reporting them to be very numerous upon the leaves and blossoms of his apple trees. Last year he stated that they were very bad on the apples and cherries and that every cherry on his trees was deformed by this insect. Mr. Thompson reports observing the beetles for the past two weeks in orchards at Monroe. Three years ago, according to Mr. Thompson, no beetles were observed in this orchard. Last year they were numerous in one small section on the south ranch. This year they were showing up in other parts of the ranch. Mr. Wilcox reports Syneta made its appearance about April 1 at Salem, apparently more abundant this year than last, although rainy weather makes it difficult to get an accurate estimate.

ROUND-HEADED APPLE TREE BORER (Saperda candida Fab.)

New York

Cornell Dept. of Ent. News Letter (April 30):

Orange County (Sidney Jones): Some evidences of injury from the round-headed apple tree borer were observed in two orchards.

SHOT-HOLE BORER (Scolytus rugulosus Ratz.)

New York

Cornell Dept. of Ent. News Letter (April 30):

Chautauqua County (G.H. Salisbury): Borers worked havoc in two orchards at Fredonia and Mayville. At least 40 per cent of the sweet cherries are thought to be injured.

PEAR

PEAR PSYLLA (Psyllia pyricola L.)

Connecticut

E. P. Felt (April 27): There is a considerable abundance of pear psylla eggs at Stamford.

Massachusetts

A. I. Bourne (April 21): The pear psylla began coming out of hibernation and appearing on the trees about April 7 to 9, during the few warm days at that time. By the 10th they were just beginning to deposit eggs on the fruit spurs.

Connecticut Philip Garman (April 24): Some eggs already laid at New Haven and Wallingford, but weather so far has not been favorable for a heavy deposition. Abundance as compared with last year appears to be about the same.

New York Cornell Dept. of Ent. News Letter (April 9):

Orange County (Sidney Jones): Psylla flies have been abundant in pear orchards most of the week, and on April 4, the first eggs were found. Some of the growers are now applying an oil spray to their pears.

Dutchess County (Ray Bender): Pear psylla flies are out and have laid a few eggs.

Ulster County (E. J. Hambleton): Psylla flies appeared on pear trees during late March but unfavorable weather prevented egg laying until April 4. Many eggs have been laid since. Several growers have applied an oil emulsion spray under conditions not entirely satisfactory for good control. Serious losses caused by the psylla last season discouraged many men and as a result hundreds of trees, principally Kieffers, have been cut down. In some orchards where sprays were either omitted or not thoroughly applied and where the foliage was lost a large number of the fruit spurs were killed.

Genesee County (R. L. Payne): Pear psylla flies are abundant in most orchards and a few growers have applied an oil spray. Pear buds seem to be slightly injured as the result of a frost which followed a few warm days in the latter part of January.

Ontario County (C. K. Bullock): The pear psylla started egg laying on April 4, and has laid a large number of eggs since then.

Wayne County (E. E. Frane): The pear psylla was found in numbers on Monday and a few growers saw them the week before. Eggs were first observed on April 13 and now a few eggs can be found in most orchards.

Monroe County (R. C. Coombs): The pear psylla has been laying eggs all week.

Niagara County (W. E. Blauvelt): Following warm weather since April 1 psylla flies are now present on the trees in considerable numbers. Up to April 5 no eggs could be found. On April 6 a few eggs were laid and on Friday the 7th egg laying was general and fairly heavy.

Geneva (P. J. Parrott): At Geneva, while a few eggs were deposited by the pear psylla on April 1, extensive egg laying did not commence until April 4.

Columbia County (A. B. Buckholz): Pear psylla flies have been abundant in pear trees all week. No eggs were noticed until the last half of the week. Today, April 7, eggs are numerous.

Cornell Dept. of Ent. News Letter (April 16):

Orange County (Sidney Jones): Psylla eggs are quite

numerous in most orchards. In one orchard where oil had been applied psylla eggs were found in large numbers. If warm weather prevails next week Kieffers will be ready for the cluster-bud spray.

Greene County (A.S.Mills): Many pear psylla eggs have been laid.

Niagara County (W.E.Blauvelt): Very little egg laying by the pear psylla has occurred since Friday the 6th because of cold weather. Very few psylla eggs are present in the majority of orchards.

There are fewer psylla present on the trees than were out last Thursday and Friday. The majority of growers using oil spray on pear for psylla applied this spray this week beginning the 11th.

Genesee County (R.L.Payne): Pear psylla flies are not abundant and few eggs have been laid.

Wayne County (E.E.Frane): Pear psylla eggs are numerous. A few growers applied an oil spray this week in orchards where there were plenty of eggs. They seem to have a lot of faith in the killing powers of the oily residue. Cherries seemingly were not hurt by the low temperatures of April 8, 9, and 10. The thermometer dropped to 20 degrees on each of these nights.

Cornell Dept. of Ent. News Letter (April 30):

Greene County (A.S.Mills): Although psylla flies have decreased in numbers they are still laying eggs on the twigs, cluster buds, and leaves. The eggs are abundant. Many psylla eggs were found in an orchard where scalecide was applied on April 5.

Genesee County (R.L.Payne): Pear psylla eggs were not abundant in the few orchards visited during the week. A few eggs were found on trees that had been sprayed with "Junior Red Engine Oil" on April 5 and 6.

Wayne County (E.E.Frane): Pear psylla eggs are quite numerous now. The flies were active today and many fresh eggs were laid (April 26):

Monroe County (R.C.Coombs): Pear psylla eggs are present in moderate numbers.

Niagara County (W.E.Blauvelt): Pear psylla flies are present on trees in rather small numbers and have been laying eggs. In some orchards it is still difficult to find any flies and eggs are scarce. Flies are present and laying eggs in many of the oil sprayed orchards, but egg laying is apparently not so heavy as in some of the unsprayed orchards.

Canada

Cornell Dept. of Ent. News Letter (April 9):

St. Catherines (J.C.Chamberlain): Pear psylla adults have been numerous on the twigs at St. Catherines. Psylla eggs were first noticed on April 5.

PEAR THRIPS (Taeniothrips inconsequens Uzel)

New York

Cornell Dept. of Ent. News Letter (April 9):

Dutchess County (Ray Bender): No pear thrips were observed

thus far.

Greene County (A.S.Mills): No pear thrips have been found in favorable locations.

Columbia County (A.B.Buchholz): Pear thrips were found working in pear buds on April 7.

Cornell Dept. of Ent. News Letter (April 16):

Dutchess County (Ray Bender): Three warnings were sent out this week, card on pear thrips. April 9, letter on delayed-dormant on apples on April 12, and a letter on delayed-dormant on sweet cherries on April 13.

Ulster County (E.J.Hambleton): Pear thrips have been feeding for at least a week. In no case have they been found to be really serious thus far.

Greene County (A.S.Mills): Pear thrips were found inside Kieffer buds on April 9. Since then a few have been found in apple and pear buds but no definite swarming period was observed.

Orange County (Sidney Jones): Pear thrips were observed on April 7, in the Newburgh district. They appear numerous only in a few orchards. A few growers have sprayed for the pear thrips but most growers are not intending to spray. No definite swarming period has been observed.

Cornell Dept. of Ent. News Letter (April 30):

Greene County (A.S.Mills): Pear thrips are found in all orchards in apple and pear buds. Few pear buds have been blasted by them.

QUINCE

EUROPEAN FRUIT LECANIUM (Lecanium corni Bouche)

New York

Cornell Dept. of Ent. News Letter (April 9):

Greene County (A.S.Mills): The lecanium scale is serious in one blackberry patch.

Niagara County (W.E.Blauvelt): Several severe infestations of the European fruit lecanium on plums and prunes are being treated with oil.

Cornell Dept. of Ent. News Letter (April 16):

Niagara County (W.E.Blauvelt): A very severe infestation of the European fruit lecanium scale was noted in one quince orchard. Pruning is still going on.

Cornell Dept. of Ent. News Letter (April 30):

Chautauqua County (G.H.Salisbury): An isolated orchard or two have much lecanium scale.

PEACH

COTTONY PEACH SCALE (Pulvinaria amygdali Ckll.)

New York

P. J. Chapman (April 7): Several orchards are infested in Niagara.

Orleans, Monroe, and Wayne Counties. Field assistants report that fewer orchards are seriously infested this year than in 1927. Growers have applied an oil spray for this pest in several instances.

Cornell Dept. of Ent. News Letter (April 9):

Niagara County (W. E. Blauvelt): There are still a few infestations of the cottony peach scale for which growers will apply an oil spray.

Wayne County (E. E. Frane): The few orchards with the cottony scale are being sprayed this week.

ORIENTAL FRUIT MOTH (Laspeyresia molesta Busck)

Georgia

Oliver I. Snapp and H. S. Swingle (April 19): No injury from this insect has shown up yet in the Fort Valley. Last year the first twig injury was noted on April 2. With such a late start the usual number of generations is not anticipated. (April 25): The first oriental peach moth larva of the 1928 season was observed in the field today. The individual was about 2 days old. The moth evidently started to work about three weeks later this year than it did in 1927, as the first larvae was observed in the field last year on April 2.

GREEN PEACH APHID (Myzus persicae Sulz.)

New York

Cornell Dept. of Ent. News Letter (April 30):

Ulster County (E. J. Hambleton): Green peach aphids were found on the 23rd nearly half grown.

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

North Carolina

R. W. Leiby (May 4): According to J. A. Harris adult curculios are being taken more commonly than usual by jarring on peach trees in North Carolina's Sandhill commercial peach section. The first eggs are now being laid. A few young larvae have been observed. The season is two to three weeks behind last year.

SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.)

Georgia

Oliver I. Snapp (April 20): For two or three weeks these insects have been numerous in peach orchards at Fort Valley, feeding on the foliage and peach flowers. In some cases the insect damaged the little peaches.

SOLDIER BUGS (Pentatomidae)

Illinois

S. C. Chandler (April 18): The first pentatomids observed this season in southern Illinois on peach were jarred from trees in Johnson County April 13. Stage of peach, petals three-fourths off.

CHERRY

BLACK CHERRY APHID (Myzus cerasi Fab.)

New York

Cornell Dept. of Ent. News Letter (April 9):

Dutchess County (Ray Bender): The black cherry aphid is starting to hatch on sweet cherries.

Ulster County (E. J. Hambleton): The black cherry aphid began hatching April 4 but is not out in numbers.

Cornell Dept. of Ent. News Letter (April 16):

Wayne County (E. E. Frane): Black cherry aphids are hatching.

Orange County (Sidney Jones): The black cherry aphid does not appear to be abundant on sweet cherries in this county. Only a few growers have sprayed their sweet cherries to date.

Niagara County (W. E. Blauvelt): Black cherry aphids have begun to hatch in some sections of the county.

Ulster County (E. J. Hambleton): Sweet cherries in some localities are heavily infested with the cherry aphid which along the river for some blocks will soon be ready for the delayed-dormant treatment as the green blossom buds are beginning to show.

Cornell Dept. of Ent. News Letter (April 30):

Niagara County (W. E. Blauvelt): Black cherry aphids are quite numerous in some orchards, but absent or very scarce in the majority.

Greene County (A. S. Mills): The cherry aphid is present in small numbers.

Canada

Cornell Dept. of Ent. News Letter (April 30):

St. Catharines, (G. C. Chamberlain): Black cherry aphids seem to be quite numerous on the buds.

PLUM

PLUM CURCULIO (Conotrachelus nemuphar Hbst.)

Georgia

Oliver I. Snapp and H. S. Swingle (April 20): The first curculio egg in the field was not observed until April 6. Last year the first eggs were found on March 25. Only one generation of this insect is anticipated here this year (Fort Valley) on account of its late start. Many adults have been taken by jarring in the orchard since the first egg was found, and the indications are that the infestation is fairly heavy, irrespective of low temperatures experienced last winter. Growers are now putting on the second application of spray or dust for the control of the curculio.

Illinois

W. P. Flint (April 18): Examinations by Mr. Chandler and jarrings in southern Illinois have failed to show any plum curculio present in the peach orchards up to this date.

RUSTY PLUM APHID (Hysteroneura setariae Thos.)

Mississippi

R. W. Harned (April 3): The rusty plum aphid on plum was reported from Durant on this date, and on plum from McComb on April 20.

Texas

F. C. Bishopp (April 28): Plum aphid is causing considerable loss in Dallas by heavily infesting various kinds of cultivated plums.

GRAPE

BLUEBERRY FLEA BEETLE (Haltica torquata Lec.)

California

A. C. Davis (April 10): The beetles were first noticed Saturday morning, April 7. By April 10, a number of vines had been almost completely stripped of leaves and perhaps 25 or 30 badly damaged. The beetles are now (April 10) distributed throughout the vineyard of about 60 acres 3 miles east of Placentia, but seem to concentrate upon certain plants.

CURRENT

CURRENT APHID (Myzus ribis L.)

New York

Cornell Dept. of Ent. News Letter (April 30):
Chautauque County (G. H. Salisbury): No current aphids have been seen yet though current leaves are out.

PECAN

APTEE TWIG BORER (Amphicerus bicaudatus Say)

Mississippi

R. W. Harned (April 24): Pecan twigs showing injury by the grape cane borer, Schistoceros hamatus, were received from Marks on April 17.

RED-SHOULDERED SHOT-HOLE BORER (Xylobiops basilaris Say)

Mississippi

R. W. Harned (April 24): A number of specimens of the red-shouldered shot-hole borer were taken from pecan trees at Jackson on April 4. The pecan tree received appeared to be green and living but contained living larvae, pupae, and adults of this species.

CITRUS

SPIRAEA APHID (Aphis spiraeicola Patch)

Florida

J. R. Watson (April 25): The citrus aphid was very scarce during the early spring owing to the unusually severe freezes of January, but the month of April has been rather cold and backward and the

aphids have increased very rapidly so there is now an unusually heavy infestation for this time of the year. The first flush of growth is out of danger but severe damage may result to trees injured by cold.

APHIDIIDAE

California Monthly News Letter Los Angeles Horticultural Commission, Volume 10, No. 4 (April 15): The spraying operation conducted this season in citrus orchards for the control of an unusually heavy infestation of aphids has been very well handled and satisfactory control obtained throughout the County according to Deputy Horticultural Commissioner H. H. Wilcomb, in Charge of Fumigation and spraying. During the first two weeks of April parasites entered into the control to such an extent that since the middle of April practically no further spraying has needed to be done. The parasites mostly responsible for such good control in the majority of groves seem to be the western syrphid fly and a fungus parasite which is probably Entomophthora aphidis.

FLORIDA FLOWER THRIPS (Frankliniella tritici bispinosa Morgan)

Florida J. R. Watson (April 25): The common flower thrips has been unusually abundant. This is due to the unusual dry weather which prevailed up until the middle of April.

CITROPHILUS MEALYBUG (Pseudococcus gahani Green)

California Monthly News Letter Los Angeles County Horticultural Commission, Volume 10, No. 4 (April 15): A preliminary summary of present inspections made by H. M. Armitage, Deputy Horticultural Commissioner in charge of Insectary, indicates that infestations are running 7 per cent heavy, 14 per cent medium, and the balance light. This is somewhat heavier than previously estimated, but may be attributed to the fact that the initial inspections are being made in the known heavily infested areas.

Production of Cryptolaemus at the county insectaries indicates that it will be possible to cover all heavy infestations during April, and those of medium degree during the first two weeks of May. The balance of production will be used in covering as many of the light infestations as may seem practical. All liberations will be completed in sufficient time so that, providing field conditions are favorable, control of the mealybug will be secured before any serious injury occurs. Liberations of thirty adult Cryptolaemus per tree in lots of ten at ten-day intervals are contemplated in the case of heavy infestations, in an effort to "speed-up" control. In a similar manner medium infestations will be covered, using twenty beetles per tree. In the case of light infestations only ten beetles will be used per tree as in past seasons.

BLACK SCALE (Saissetia oleae Bern.)

California

Monthly News Letter Los Angeles County Horticultural Commission, Vol. 10, No. 4 (April 15): An intensive campaign has been carried on by the Los Angeles Horticultural Commissioner's Office during the winter for the control of black scale on olives in the Sylmar District. The purpose of the campaign has been to protect the citrus properties in that locality and the commercial olive acreage from infestation from miscellaneous uncared-for olive plantings.

A recent survey made in the various citrus sections of Los Angeles County by Deputy Commissioner H. H. Wilcomb, in Charge of Fumigation and Spraying, indicated that the black scale will have developed to a point by the middle of April which will permit the grading of orchards as to degree of infestation. While the size of the scale varies widely in the different districts, it is felt that inspection can start generally in all districts by the 15th of April.

RED SPIDER (Tetranychus telarius L.)

California

Monthly News Letter, Los Angeles County Horticultural Commission, Volume 10, No. 4, (April 15): Considerable dusting of citrus is being done this season for the control of red spider throughout the county.

TRUCK - CROP INSECTS

MISCELLANEOUS FEEDERS

VEGETABLE WEEVIL (Listroderes obliquus Gyll.)

Mississippi

R. W. Harned (April 24): Specimens of the vegetable weevil were received on March 22 from Hermanville. Cabbage and mustard plants had been seriously injured by these insects. In fact, the correspondent stated that 50 per cent of his cabbage had been destroyed.

BLACK CUTWORM (Agrotis ypsilon Rott.)

North
Carolina

J. N. Tenhet (April 10): Cutworms are unusually abundant and destructive to cabbage, corn, potatoes, lettuce, and all kinds of truck in the locality of Chadbourn. Fully 90 per cent of all cutworms observed were Agrotis ypsilon.

SOBBUGS (Oniscidae)

New York

Cornell Dept. Ent. News Letter (April 18): A very heavy infestation of sowbugs in a greenhouse caused considerable anxiety to a tomato grower in Sheridan. The bottoms and sides of the flats were well covered by the crustaceans and they were attacking a row of cucumbers which were growing between the flats.

Mississippi

R. W. Harned (April 24): A correspondent at Crystal Springs wrote us on April 11 that pillbugs were very numerous around his watermelon and sweet potato plants. He indicated that as yet he could see no serious damage that they had caused.

MYRIAPODS (Symphylidae)

Illinois

C. C. Compton (April 2): Symphylids completely destroyed a crop of cucumbers, tomatoes, and lettuce comprising about 1 acre under glass at Melrose Park. The growth of wild mustard, timothy, and thistle was also severely injured.

POTATO AND TOMATO

COLORADO POTATO BEETLE (Leptinotarsa decemlineata Say)

North
Carolina

C. H. Brannon (April 30): The potato bug is causing the usual damage and a vigorous campaign is under way.

Mississippi

R. W. Harned (April 24): The Colorado potato beetle was observed on grapevines at Lucedale April 16. The reporter stated that these were the first specimens that he had noticed in that vicinity during 1928. Specimens were sent to us on April 12 from a garden at Ridgeland.

A WIREWORM (Heteroderes sp.)

Mississippi K. L. Cockerham (May 1): Damage to Irish potatoes by this insect was reported from Picayune, Pearl River County. This evidently is the same species of wireworm that has been causing severe damage to the sweet-potato crop for the last year or so.

A NITIDULID (Heterostomus pulicarius L.)

Pennsylvania M. F. Crowell (April 20): Heterostomus pulicarius L. was found infesting tomato flowers in a greenhouse at Erie.

CABBAGE

HARLEQUIN BUG (Murgantia histrionica Hahn)

North Carolina J. N. Tenhet (April 3): The harlequin bug has appeared on broccoli in considerable numbers. No appreciable damage has been noted to broccoli, but it is quite probable that the early appearance of this insect may presage an outbreak later in the summer.

C. H. Brannon (April 30): This insect promises to cause even worse damage in the State than usual. This pest is one of the worst insect enemies in the State.

Alabama L. W. Brannon (March 27): Fifty harlequin bugs were collected on March 27 in the locality of Birmingham feeding on turnips and mustard. Pairs were copulating when found. The temperature when these bugs were found was 55° F. The first eggs from these bugs were deposited in the insectary on April 4. This insect does considerable damage in this district each season, and present indications are that it will continue to do so.

Mississippi R. W. Harned (April 24): Serious injury to cabbage at Sessums' and to collards at Madison by the harlequin bug was reported April 13. Specimens accompanied the complaint in each case.

CABBAGE APHID (Brevicoryne brassicae L.)

Mississippi R. W. Harned (April 4): Brevicoryne brassicae has been reported attacking cabbage at Estes Mills. Specimens identified by A. L. Hemner.

IMPORTED CABBAGE WORM (Pieris rapae L.)

Mississippi R. W. Harned (April 24): Specimens of Pieris rapae were received April 12, from Durant, where they were reported as causing serious injury to cabbage plants.

VARIEGATED CUTWORM (Lycophotia margaritosa saucia Hbn.)

Mississippi R. W. Harned (April 24): Cutworms tentatively identified by J. M.

Langston as Lycophotia margaritosa var. saucia were reported as causing injury to cabbage plants at Eden April 18.

CABBAGE CURCULIO (Ceutorhynchus rapae Gyll.)

Missouri

L. Haseman (April 27): In Jackson County a local epidemic of the cabbage curculio has been seriously damaging cabbage in cold frames and to some extent in the field.

STRAWBERRY

A WEEVIL (Dyslobus decorata Lec.)

Oregon

Don C. Mote (April 18): Dyslobus decorata began emerging from the ground, according to Mr. Wilcox, about March 20, most of the adults emerging by April 1. Up to April 14 no eggs had been found in the field. The altitude of the country is 1,400 feet.

A WEEVIL (Dyslobus granicollis Lec.)

Oregon

Don C. Mote (April 18): Dyslobus granicollis began emerging from the ground about March 10. A few eggs were found in the field by April 12.

FIRE ANT (Solenopsis geminata Fab.)

Mississippi

R. W. Harned (April 24): The fire ant was received on April 21 from Waveland, where it was reported as injuring strawberries.

AN ANT (Iridomyrmex analis André)

Mississippi

R. W. Harned (April 24): The ill-smelling ant was received from Waveland on April 21, where it was reported as injuring strawberries.

BEANS

MEXICAN BEAN BEETLE (Epilachna corrupta Muls.)

Alabama

L. W. Brannon (April 12): The first bean beetle of the 1928 season was found feeding on beans in the field on April 12. This was 13 days later than last season. On April 2 beans were up on one truck farm but no beetles were found on them until April 12. On this date only one Mexican bean beetle was found on 16 rows of beans about 200 feet long. No signs of beetle feeding were found on any plants except the one where the beetle was found. From present indications the winter survival will be very low. During the fall of 1927, from September 21 to November 3, 3,370 beetles were placed in hibernation and very little activity has been seen to date. Only 3 beetles have been seen active in the cage on any one date, and on April 12, when the first beetle was found in the

field, only 2 beetles were active in the cage. On April 13 7 beetles were found in another field on 17 rows 75 feet long.

BEAN LEAF BEETLE (Cerotoma trifurcata Forst.)

Alabama

L. W. Brannon (April 4): The first bean leaf beetle of the 1928 season in the locality of Birmingham was found feeding on beans in the field on April 4. This was eight days sooner than the first Mexican bean beetle was found. These beetles are not very numerous on the beans now and are not doing so much damage and are not so numerous as the southern corn root worm.

SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.)

North
Carolina

C. H. Brannon (April 5): The adult of this species is causing extensive damage to lettuce in Brunswick County. Specimens of the insect and feeding damage sent in by County Agent, J. E. Dodson.

Alabama

L. W. Brannon (March 29): The first southern corn root worm adults of the 1928 season were found feeding on young beans in the locality of Birmingham on March 29. Thirteen of these beetles were collected on 16 rows of small beans about 200 feet long on April 12. Most of the females collected had enlarged abdomens, indicating that oviposition was taking place. Some of the small bean leaves showed considerable injury caused by this insect.

CARROTS

CARROT RUST FLY (Psila rosae Fab.)

New York

C. R. Crosby (March 14): Carrots infested with Psila rosae have been received from Canton.

RADISH

HORSE-RADISH FLEA BEETLE (Phyllotreta armoraciae Koch)

Missouri

L. Haseman (April 6): I am taking this opportunity of reporting the finding of a new flea beetle to this State or at least to this department. It is the European species, Phyllotreta armoraciae Koch, and is reported as being very destructive to horse-radish in those parts of St. Louis County where horse-radish is a commercial crop. We are expecting to undertake some breeding experiments with this little beetle in the laboratory though we will try not to allow it to get out of captivity, as it might prove to be a serious addition to our local abundant supply of flea beetles. (April 27): Assistant county agent, Seaton of St. Louis County, has reported a serious outbreak of this flea beetle on horse-radish in that county. It lives through the winter feeding on warm days on the small horse-radish roots left in the soil after the crop is dug in the fall.

STRIPED FLEA BEETLE (Phyllotreta vittata Fab.)

Kansas

H. B. Hungerford (April 5): The striped turnip flea beetle, Phyllotreta vittata, is very destructive to young radishes this season in the eastern part of the State.

S O U T H E R N F I E L D - C R O P I N S E C T S

COTTON

BOLL WEEVIL (Anthonomus grandis Boh.)

General
Statement

U. S. D. A. (Release of April 5): The annual examinations of moss conducted by the Bureau of Entomology, United States Department of Agriculture, for 1928, to determine the survival of boll weevils in hibernation, have been completed. In addition to the examinations made by the Bureau of Entomology, similar ones, included in this report, were carried out at three different points in Texas by F. L. Thomas of the Texas State Experiment Station. The examinations in South Carolina were made in cooperation with the South Carolina Experiment Station.

As in past years, these examinations have been made only in Spanish moss and the findings are recorded in live weevils per ton of moss. The records for 1928 are:

	Live weevils per ton of moss.
Northern Louisiana.....	1.0
Southern Louisiana.....	365.1
Louisiana, State average.....	65.9
Alabama.....	45.2
Georgia.....	88.7
South Carolina.....	21.1
Texas.....	74.5

Temperatures, with the exception of a few days in early January, have been comparatively mild during the past winter. It will be recalled that conditions, generally speaking, were favorable in most sections for a large number of weevils entering hibernation last fall.

In considering the records in northeastern Louisiana, it should be remembered that most of this area was included in the Mississippi River overflow during the season of 1927 and that in some sections very little cotton was planted. These records thus represent primarily the after-effect of the overflow rather than winter mortality.

Although the figures presented above are indicative of the percentage of weevil survival, it is recognized that the examinations were made at an insufficient number of points to give figures from which accurate conclusions may be drawn for the entire Cotton Belt.

PINK BOLLWORM (Pectinophora gossypiella Saund.)

Texas Monthly Letter of the Bureau of Entomology, No. 167, March, 1928. Final arrangements have been made for the inauguration of a complete program of research on the pink bollworm, which has now become sufficiently abundant in western Texas to permit research investigations there.

TOBACCO

TOBACCO FLEA BEETLE (Epitrix parvula Fab.)

North Carolina J. N. Tenhet (April 14): Tobacco plant beds are being rather seriously injured in many localities around Chadbourn by the tobacco flea beetle.

Florida F. S. Chamberlin (April 14): Overwintered individuals are rather abundant at the present time in Gadsden County.

SUGARCANE

SUGARCANE BEETLE (Euetheola rugiceps Lec.)

Louisiana T. E. Holloway and W. E. Haley (April 2): The sugarcane beetle was found to be rather abundant in some fields on a plantation near New Orleans. The adults were killing the young plants of sugarcane in the manner which is characteristic of them, i.e., gnawing the stem just below the surface of the ground.

Texas F. L. Thomas (April 10): J. N. Rovey writes that he has found numbers of the sugarcane beetles in the cornfields in Jefferson and Liberty Counties.

F O R E S T A N D S H A D E - T R E E I N S E C T S

PERIODICAL CICADA (Tibicina septendecim L.)

New Jersey R. H. Boyd (April 11): At the present time we have contemplated having our lawn dug up and reseeded, but under all of the trees there are innumerable little holes which we believe were caused by these little bugs. We have obtained a few specimens by digging at the roots of the trees but in other places where there were no roots it was impossible to procure the larvae as they penetrated the ground so deeply, consequently it would be impossible to exterminate them by ordinary methods. (The specimens were determined by W. L. Mcatee as Tibicina septendecim L.)

New York E. P. Felt (April 27): On April 19 we found cicada pupae mostly within four inches of the surface at Hunter Island, New Rochelle.

A Correction. In the note on periodical cicada in the Insect Pest Survey bulletin, Vol. 8, No. 2, April, 1928, p. 29, line 8, "Rockingham (1894 and 1911)" should be omitted.

WHITE-MARKED TUSSOCK MOTH (Hemerocampa leucostigma S. & A.)

- New York Cornell Dept. of Entomology News Letter (April 30):
Chautauqua County (G.H.Salisbury): Tussock-moth egg masses are fairly numerous in some orchards.
- Ohio E. W. Mendenhall (March 30): The cocoons of the white-marked tussock moth are very plentiful on shade trees along the streets and in the parks in Middletown and Hamilton.

BAGWORM (Thyridopteryx ephemeraeformis Haw.)

- Ohio E. W. Mendenhall (March 30): The cocoons of the bagworm are very plentiful in and about Middletown and Hamilton on evergreens, shade trees, and shrubbery. Boy scouts of Hamilton have been picking the bags and burning them.

OYSTER-SHELL SCALE (Lepidosaphes ulmi L.)

- New York Cornell Dept. of Ent. News Letter (April 30):
Suffolk County (J.D.Been): Oyster-shell scale seems to be very serious in most apple orchards.
Chautauqua County (G.H.Salisbury): Oyster-shell scale is plentiful but not dangerously so.
- Nebraska M. H. Swenk (January 1 to April 15): The Oyster-shell scale was complained of during the period covered by this report.

ARBORVITAE

AN APHID (Dilachnus thujaefolia Theob.)

- Mississippi R. W. Harned (April 24): Dilachnus thujaefolia Theob. on arborvitae was received from Leland March 24 and from Vicksburg March 27, being collected on arborvitae in both instances. The specimens were determined by A. L. Hamner.

BOXELDER BUG (Leptocoris trivittatus Say)

- Nebraska M. H. Swenk (January 1 to April 15): The boxelder bug was the cause of many inquiries and complaints from housekeepers during the period from February 6 to March 23. These complaints came from all over the eastern half of the State.
- Kansas J. W. McColloch (March 31): The boxelder bug is still causing trouble as a household pest at Atchison, Bennington, and Kirwin.

CEDAR

DEODOR WEEVIL (Pissodes deodarae Hopk.)

- Mississippi R. W. Harned (April 24): A number of complaints in regard to weevils belonging to the genus Pissodes have been received during

the past few weeks. In each case Cedrus deodara plants have been injured. Specimens were received early in April from Leakesville and Starkville,, which were identified as possibly P. deodarae Hopk.

ELM

ELM SCURFY SCALE (Chionaspis americana Johns.)

Nebraska M. H. Swenk (January 1 to April 15): Chionaspis americana has been complained of during the period covered by this report.

FIR

DOUGLAS FIR CATERPILLAR (Euschausia argentata Pack.)

Nevada G. G. Schweiss (April 17): An undetermined species of lepidopterous larva was found on firs and to a somewhat lesser extent on pine in the district near Lake Tahoe, and neither Mr. Doten nor I have ever seen them before. According to the man who brought them to us, they are very numerous and are doing considerable damage to young firs. (Determined by C. Heinrich).

California E. O. Essig (April 2): Nearly full-grown caterpillars of the silver spotted Halisidota are defoliating young Douglas fir trees along the Noyo River, near Fort Bragg, Mendocino County.

MAPLE

WALNUT SCALE (Aspidiotus juglans-regiae Comst.)

Ohio E. W. Mendenhall (April 24): I find the soft maple and some other kinds of shade trees in Columbus infested with the walnut scale.

SPRUCE

PINE LEAF SCALE (Chionaspis pinifoliae Fitch)

Nebraska M. H. Swenk (January 1 to April 15): From the middle of February to early April at least the usual number of complaints relative to injury to evergreens, especially spruces, by the pine leaf scale were received.

WILLOW

SCURFY SCALE (Chionaspis furfura Fitch)

Ohio E. W. Mendenhall (April 24): I find a planting of willow trees in Xenia, Greene County, infested with the scurfy scale, giving the bark a whitish appearance.

Nebraska M. H. Swenk (January 1 to April 15): The willow scale was complained of during the period covered by this report.

GREENHOUSE AND ORNAMENTAL
PLANTS AND LAWNS

COTTONY-CUSHION SCALE (Icerya purchasi Mask.)

North Carolina R. W. Leiby (May 4): This insect became established in Wilmington within the last four years. It was commonly complained of last year, being destructive to the point of killing large ornamental broad-leaved evergreens. Vedalia lady beetles were procured from California in February, and their larvae bred in the laboratory and released on infested shrubbery. A complete generation of the beetles has developed this spring out of doors.

ORIENTAL FRUIT MOTH (Laspeyresia molesta Busck)

Maryland J. A. Hyslop (April 3): The work of what appears to be this insect was found on several twigs of Stranvaesia davidiana in my garden.

WHITEFLIES (Aleurodidae)

Georgia O. I. Snapp (April 19): As usual these insects are numerous on ornamentals at Fort Valley at this season of the year, necessitating the enforcement of control measures.

SNOWY TREE CRICKET (Oecanthus niveus DeG.)

Ohio E. W. Mendenhall (April 11): I find oviposition scars of Oecanthus niveus DeG. on various shrubs and trees in many localities in central and southwestern Ohio. While they are beneficial there is some danger of fungus getting into the scars made by them.

CHRYSANTHEMUM

CHRYSANTHEMUM GALL MIDGE (Diarthronomyia hypogaea Loew)

Mississippi R. W. Harned (April 24): Specimens of the chrysanthemum gall midge were found injuring chrysanthemum plants at Greenville April 5. This insect has been intercepted from many shipments of chrysanthemum plants from northern States, especially from Ohio this spring.

LILY

BULB MITE (Rhizoglyphus hyacinthi Boisd.)

Nebraska M. H. Swenk (January 1 to April 15): During March the bulb mite was found doing severe injury in two greenhouses, one at Lincoln and the other at Kearney.

Washington C. F. Doucette (April 26): Approximately 500 plants of a total of 5,000 Easter lilies, Lilium longiflorum giganteum, in a greenhouse near Seattle had to be discarded because of injury by the bulb mite. This was evidenced by a slight wilting of the foliage and a yellow-

ing of the leaf tips. The mites could be found inside the stems an inch or two above the soil surface and from this region in most cases a browned streak could be traced down into the bulb to its base, which area appeared more or less rotted and populated somewhat with mites. Preliminary cultures by plant pathologists have not revealed any organisms in these brown rotted portions which can be considered responsible for the injury and accordingly the mites are considered the primary cause. These bulbs were imported from Japan in 1927. Other lots being forced in greenhouses in this section have also shown some losses, but figures were not obtained. The bulb mite has also been encountered frequently in plantings of lilies of several species being grown outside in western Washington.

A BYRRHID BEETLE (Amphicyrta chrysomelina Er.)

Oregon

Don C. Mote (April 18): Larvae of this byrrhid were found doing damage to lilies, clover, and grasses by Wilcox on April 11.

ROSE

POTATO APHID (Illinoia solanifolii Ashm.)

Mississippi

R. W. Harned (March 28): Macrosiphum rosaefolium has been collected on rose from Lumberton March 28.

LAWNS

EARTHWORMS (Lumbricus sp.)

Illinois

W. P. Flint (April 18): Numerous reports of damage to lawns by earthworms have been received.

I N S E C T S A T T A C K I N G M A N A N D

D O M E S T I C A N I M A L S

MAN

MOSQUITOES (Culex sp.)

North

Carolina

J. W. Tenhet (April 12): Mosquitoes are unusually abundant at Chadbourn for this season of the year and are remarkably vicious.

HOUSE FLY (Musca domestica L.)

North Central
States

F. C. Bishopp (April 16-26): A single specimen of house fly observed in a restaurant at Topeka, Kansas (April 16), was the only one seen during this period (April 16-26) at a number of points visited in Kansas, Iowa, Minnesota, North Dakota, South Dakota, and at Omaha, Nebraska.

Washington, F. C. Bishopp (April 30): There was a slight increase in the number
D. C. of house flies in this vicinity during April.

FLEAS (Ctenocephalus felis Bouche
and Ctenocephalus canis Curtis)

Illinois W. P. Flint (April 18): Judging by the number of letters received, these insects have been more abundant than usual at this time of the year. All of the specimens received have been the common cat and dog fleas. The infestations have apparently originated about farm buildings, mainly barns and feed lots.

CHIGGER (Trombidium irritans Riley)

Louisiana F. C. Bishopp (April 26): A report has been received that chiggers are causing annoyance in this vicinity (New Orleans).

HORSES

BUFFALO GNAT (Simulium pecuarum Riley)

Mississippi G. H. Bradley and T. E. McNeel (April 24): During the past two weeks a destructive outbreak of this insect occurred in Tallahatchee County. On this date the number of gnats is greatly reduced, but they are still annoying livestock. Approximately 100 heads of horses and mules have been killed as a result of the outbreak. No death losses of cattle appear to have occurred.

CATTLE

LONG-NOSED OX LOUSE (Linognathus vituli L.)

Nebraska M. H. Swenk (January 1 to April 15): Early in February a Lancaster farmer reported a heavy and severe infestation of his calves with the long-nosed cattle louse, Linognathus vituli L.

North F. C. Bishopp (April 22-24): Infestations of this louse were found
Dakota on calves at Grand Forks (April 22), Fargo (April 23), and at Jamestown (April 24), an exceedingly heavy infestation was observed.

NORTHERN CATTLE GRUB (Hypoderma bovis DeG.)

COMMON CATTLE GRUB (Hypoderma lineatum DeVill.)

Minnesota F. C. Bishopp (April 19-21): Both species were found infesting cattle at Fairbault, St. Paul, and Duluth. The heaviest infestation was observed at Fairbault where 71 grubs were found in a yearling and several animals in this herd were thought to be made unthrifty by the parasites. Some grubs (both species) were mature and others (H. bovis) were just reaching the subdermal tissues.

North F. C. Bishopp (April 22-24): I failed to find a single cattle grub
Dakota in native cattle at Grand Forks and Fargo. This shows that these

insects have not established themselves since examinations which were made in this region ten years ago. A light infestation was found in herds at Jamestown (April 24).

Iowa F. C. Bishopp and R. A. Roberts (April 18): Various stages of the northern cattle grub were found in a dairy ^{herd} at Ames; the infestation, however, was comparatively light. Both species were present.

Nebraska F. C. Bishopp (April 26): An exceedingly light infestation of Hypoderma bovis was observed in the many herds in the vicinity of Omaha. The larvae were in various stages of development. All larvae of Hypoderma lineatum had apparently emerged.

SCREW WORM (Cochliomyia macellaria Fab.)

Texas E. W. Laake (April 30): Screw worm flies have greatly increased in numbers during the month at Dallas, and now (April 30) constitute the dominant species about the local packing house.

HORN FLY (Haematobia irritans L.)

Louisiana F. C. Bishopp (April 30): Horn flies were found on dairy cattle in comparatively small numbers for this date, averaging about five per head.

HOGS

HOG MANGE MITE (Sarcoptes scabiei suis DeG.)

South Dakota F. C. Bishopp (April 25): A number of hogs were observed in the vicinity of Aberdeen to be moderately infested with hog mange.

SHEEP

SHEEP BOTFLY (Oestrus ovis L.)

New Mexico J. R. Douglass (April 21): Complaints have been received from sheepmen and inspectors that the sheep botfly was causing injury in the central part of the State. Cool weather at lambing time with very little green grass is probably a factor in the loss of ewes.

POULTRY

BLOOD SUCKING CONENOSE (Triatoma sanguisuga Lec.)

Texas E. V. Walter (April 4): This insect was reported as attacking poultry, particularly a setting turkey hen.

CHICKEN BODY LOUSE (Menopon stramineum Nitz.)

North Dakota F. C. Bishopp (April 22-24): Moderate to heavy infestations were found in every flock examined at Grand Forks April 22, Fargo April

23, and Jamestown April 24. Other species of chicken lice were comparatively few.

A HEN FLEA (Ceratophylus sp.)

Massachusetts F. C. Bishopp (April 16): An infestation of a henhouse and poultry runs at Dorchester by the eastern hen flea has been reported. The fleas are said to be very annoying to people who enter the poultry house.

H O U S E H O L D A N D S T O R E D - P R O D U C T

I N S E C T S

TERMITES (Reticulitermes sp.)

Kansas J. W. McColloch (March 2): Termites have ruined stationery and supplies in the City Clerk's office at Wellington. (April 10): Woodwork in two sorority houses at Manhattan has been seriously injured. Damage to woodwork in houses is also reported in Atchison, St. George, Wichita, Meade, and North Topeka. The ~~gymnasium~~ floor in the public school at Chetopa has been undermined. Injury to trees, especially cherries, by termites has been reported from Bucklin, Murich, Florence, LaCrosse, and Meade.

Mississippi K. L. Cockerham (May 1): Reticulitermes virginicus Banks continues to damage buildings in Biloxi. Reports come in nearly every day concerning these insects.

A TERMITE (Kaloterms piceatus Sny.)

Hawaiian Islands Monthly Letter of the Bureau of Entomology, No. 167, March, 1928. Dr. T. E. Snyder reports that interceptions of the dry-wood termite, Kaloterms (Cryptoterms) piceatus Sny., in 1927 at the port of Honolulu, Hawaii, probably establish China as its original habitat, termites of this species having been discovered in household articles of Chinese passengers from China. This termite has been known to occur in the Hawaiian Islands only since 1904. It is found at Honolulu (on Oahu) and at Hilo (on Hawaii).

CLOVER MITE (Bryobia praetiosa Koch)

Nebraska M. H. Swenk (January 1 to April 15): Shortly before the house-keepers were relieved of the boxelder-bug invasion in their houses during February and March, the clover mite became very annoying in houses. Many complaints were received about these mites from all parts of this State from March 20 to April 15.

RAT MITE (Liponyssus ~~ba~~ ba coti Hirst)

North
Carolina

C. H. Brannon (April 5): This species is causing serious trouble in one of the common cotton mills at Concord. The mites are found all over spools of yarn and machinery, crawling on the mill workers and causing painful bites. The mill owners were desperate and thinking of closing down until something could be done. (Determined by H. E. Ewing).

A COCKROACH (Archimandrita marmorata Stoll)

Massachusetts

A. I. Bourne (April 21): Within the last two or three days we received a sample of a giant cockroach, Archimandrita, probably marmorata, which was sent in to us by a correspondent from Middlesex County with a report that it was collected in bananas in a market in that section.

A POWDER POST BEETLE (Lyctus planicollis Lec.)

Mississippi

K. L. Cockerham (May 1): Severe damage from this insect was found in one of the hardware stores in Biloxi on April 28. These insects were damaging hammer, hatchet, ax, and hoe handles which were in stock. Adult beetles were collected at the time.

